L4 requirements changes to provide Production Subsetting capability.

These changes are based on the RTM baseline of 9/16/96; and was re-verified against the baseline of 09/16/96

Text explaining PGS RbR Requirement changes related to SDPS RbR changes - Several PGS RbR requirements and two L4s which help cover them are being included in this CCR to formalize a concept implicitly related to the production subsetting requirements, namely the DPS ability to insert data into a remote data server and to be able to acquire data from a remote data server. This capability is only required to support the AM-1 mission.

Changes since first submittal:
1. New L4s supporting the new SDPS Production Oriented Subsetting RbRs now include the conditional phrase "In support of reducing production data dependency flow bandwidth consumption during inter-DAAC network transmission," to make sure that these subsetting capabilities aren't assumed for all products and activities - its only for those products which will become inter-DAAC traffic.
2. Except for PGS-0270#B, all of the DPS remote staging/destaging L4 requirements were being linked to the opposite staging/destaging RbR. These links have all been reversed.

Table 1: Reference table for RbRs and L4s linkage

RBR_id	text	interpretation text	clar._text	L4 id	req key	rel	text
SDPS0200#B	In support of reducing production data dependency flow bandwidth consumption during inter-DAAC network transmission, the ECS shall support subsetting through the use of geographical masking (land/sea mask, snow/ice mask) for standard production as well as reprocessing.			S-DSS-02905	new	B	In support of reducing production data dependency flow bandwidth consumption during inter-DAAC network transmission, the SDSRV CI shall provide the capability to subset data within a granule through the use of geographical masking (land/sea mask, snow/ice mask) for products specified in Appendix F - Data Type Matrix, of the current version of 304-CD-005.
SDPS0210#B	In support of reducing production data dependency flow bandwidth consumption during inter-DAAC network transmission, the ECS shall support the application of lossless compression and decompression techniques on data set files for removal of data set fill pixels, for standard production as well as reprocessing.			S-DSS-02906	new	B	In support of reducing production data dependency flow bandwidth consumption during inter-DAAC network transmission, the SDSRV CI shall provide the capability to compress data set files losslessly by eliminating repeated fill pixel values.
SDPS0210#B				S-DSS-02907	new	B	In support of reducing production data dependency flow bandwidth consumption

							during inter-DAAC network transmission, the SDSRV CI shall provide the capability to decompress losslessly on data set files.
SDPS0210# B				S-DPS-26000	new	B	The PRONG CI shall be capable of compressing data being destaged to a SDSRV CI at a remote DAAC.
SDPS0210# B				S-DPS-26010	new	B	The PRONG CI shall be capable of decompressing data being staged from a SDSRV CI at a remote DAAC.
SDPS0220# B	In support of reducing production data dependency flow bandwidth consumption during inter-DAAC network transmission, the ECS shall support subsetting through swath width reduction by selection of a range of pixels from each swath row, for standard production as well as reprocessing.			S-DSS-02908	new	B	In support of reducing production data dependency flow bandwidth consumption during inter-DAAC network transmission, the SDSRV CI shall provide the capability to subset data within a granule by selecting data values for a specified range of contiguous pixels in each swath scan line for products specified in Appendix F - Data Type Matrix, of the current version of 304-CD-005.
SDPS0230# B	In support of reducing production data dependency flow bandwidth consumption during inter-DAAC network transmission, the ECS shall support subsetting by spectral band(s) selection, for standard production as well as reprocessing.			S-DSS-02902	8792	B	The SDSRV CI shall provide the capability to subset, subsample, or average data within a granule based on Spectral band for products specified in Appendix F - Data Type Matrix, of the current version of 304-CD-005.
PGS-0190#B -	The PGS shall coordinate with the DADS on the staging of data for product generation.			S-DPS-26030	new	B	The PRONG CI shall be capable of staging data from a SDSRV CI at a remote DAAC.
PGS-0270#B	The PGS shall provide the capability to perform the following functions, at a minimum: a. Allocate tasks among processors b. Suspend execution of tasks c. Resume execution of a suspended task d. Cancel execution of tasks e. Request and verify the staging and/or destaging of data stored in the DADS			S-DPS-26020	new	B	The PRONG CI shall be capable of destaging data to a SDSRV CI at a remote DAAC.
PGS-0270#B				S-DPS-26030	new	B	The PRONG CI shall be capable of staging data from a SDSRV CI at a remote DAAC.
PGS-0440#B	The PGS shall accept from the DADS L0-L4 data products. Received information shall contain at a			S-DPS-26030	new	B	The PRONG CI shall be capable of staging data from a SDSRV CI at a remote DAAC.

	minimum: a. Product identification b. L0-L4 data set c. Metadata required for processing d. Current date and time e. DADS identification					
PGS-0450#B	The PGS shall accept from the DADS ancillary data sets. Received information shall contain at a minimum: a. Product identification b. Ancillary data set c. Metadata required for processing d. Current date and time e. DADS identification	S-DPS-26030	new	B	The PRONG CI shall be capable of staging data from a SDSRV CI at a remote DAAC.
PGS-1240#B	The PGS shall send the generated Level 1 to Level 4 Standard Products to the DADS. These products shall contain the following information at a minimum: a. Product identification b. L1-L4 data set c. Product processing priority d. Current date and time e. Associated metadata	S-DPS-26020	new	B	The PRONG CI shall be capable of destaging data to a SDSRV CI at a remote DAAC.
PGS-1250#B	The PGS shall send the DADS the calibrated ancillary data.	S-DPS-26020	new	B	The PRONG CI shall be capable of destaging data to a SDSRV CI at a remote DAAC.

Table 2: Rqmts to be added to Level_4 class

L4 id	req_key	rel	req_type	req_status	ver_method	ver_status	CCR	clarification	text
S-DSS-02905	new	B	functional	approved	test	unverified			In support of reducing production data dependency flow bandwidth consumption during inter-DAAC network transmission, the SDSRV CI shall provide the capability to subset data within a granule through the use of

									geographical masking for products specified in Appendix F - Data Type Matrix, of the current version of 304-CD-005.
S-DSS-02906	new	B	functional	approved	test	unverified			In support of reducing production data dependency flow bandwidth consumption during inter-DAAC network transmission, the SDSRV CI shall provide the capability to compress data set files losslessly by eliminating repeated fill pixel values.
S-DSS-02907	new	B	functional	approved	test	unverified			In support of reducing production data dependency flow bandwidth consumption during inter-DAAC network transmission, the SDSRV CI shall provide the capability to decompress losslessly on data set files.
S-DSS-02908	new	B	functional	approved	test	unverified			In support of reducing production data dependency flow bandwidth consumption during inter-DAAC network transmission, the SDSRV CI shall provide the capability to subset data within a granule by selecting data values for a specified range of contiguous pixels in each swath scan line for products specified in Appendix F - Data Type Matrix, of the current version of 304-CD-005.
S-DPS-26000	new	B	functional	approved	test	unverified			The PRONG CI shall be capable of compressing data being destaged to a SDSRV CI at a remote DAAC.
S-DPS-26010	new	B	functional	approved	test	unverified			The PRONG CI shall be capable of decompressing data being staged from a SDSRV CI at a remote DAAC.
S-DPS-26020	new	B	functional	approved	test	unverified			The PRONG CI shall be capable of destaging data to a SDSRV CI at a remote DAAC.
S-DPS-26030	new	B	functional	approved	test	unverified			The PRONG CI shall be capable of staging data from a SDSRV CI at a remote DAAC

Table 3: RBR to Level_4 links to be added

RBR_id	L4 id
SDPS0200#B	S-DSS-02905
SDPS0210#B	S-DSS-02906

SDPS0210#B	S-DSS-02907
SDPS0210#B	S-DPS-26000
SDPS0210#B	S-DPS-26010
SDPS0220#B	S-DSS-02908
SDPS0230#B	S-DSS-02902
PGS-0190#B	S-DPS-26030
PGS-0270#B	S-DPS-26020
PGS-0270#B	S-DPS-26030
PGS-0440#B	S-DPS-26030
PGS-0450#B	S-DPS-26030
PGS-1240#B	S-DPS-26020
PGS-1250#B	S-DPS-26020

Table 4: Reference table for L4 rqmts and their design (component) links

L4 id	req_key	rel	text	Component_Id	Req_Key	Comp_Type	Dev_Category	Text
S-DSS-02905	new	B	In support of reducing production data dependency flow bandwidth consumption during inter-DAAC network transmission, the SDSRV CI shall provide the capability to subset data within a granule through the use of geographical masking (land/sea mask, snow/ice mask) for products specified in Appendix F - Data Type Matrix, of the current version of 304-CD-005.	DsGeECSDataProduct	461	Object	Develop	To provide a general interface for services provided by ECS Data Product objects. ECSDataProducts are the ESDTs that are science data objects generated by ECS.
S-DSS-02906	new	B	In support of reducing production data dependency flow bandwidth consumption during inter-DAAC network transmission, the SDSRV CI shall provide the capability to	DsGeECSDataProduct	461	Object	Develop	To provide a general interface for services provided by ECS Data Product objects. ECSDataProducts are the ESDTs that are science data objects generated by ECS.

			compress data set files losslessly by eliminating repeated fill pixel values.					
S-DSS-02907	new	B	In support of reducing production data dependency flow bandwidth consumption during inter-DAAC network transmission, the SDSRV CI shall provide the capability to decompress losslessly on data set files.	DsGeECSDataProduct	461	Object	Develop	To provide a general interface for services provided by ECS Data Product objects. ECSDataProducts are the ESDTs that are science data objects generated by ECS.
S-DSS-02908	new	B	The SDSRV CI shall provide the capability to subset data within a granule by selecting data values for a specified range of contiguous pixels in each swath scan line for products specified in Appendix F - Data Type Matrix, of the current version of 304-CD-005.	DsGeECSDataProduct	461	Object	Develop	To provide a general interface for services provided by ECS Data Product objects. ECSDataProducts are the ESDTs that are science data objects generated by ECS.
S-DSS-02902	8792	B	The SDSRV CI shall provide the capability to subset, subsample, or average data within a granule based on Spectral band for products specified in Appendix F - Data Type Matrix, of the current version of 304-CD-005.	DsGeECSDataProduct	461	Object	Develop	To provide a general interface for services provided by ECS Data Product objects. ECSDataProducts are the ESDTs that are science data objects generated by ECS.
S-DPS-26000	new	B	The PRONG CI shall be capable of compressing data being destaged to a SDSRV CI at a remote DAAC.	DpPrDataManager	386	Object	Develop	This class defines attributes and operations for initializing and managing data granules required by a PGE during its execution. It also ensures data availability before the execution of a PGE. In case of input data is unavailable at our local system disk, it sends request to DataServer to stage data at a specific location that allocated by Resource Management. At the end of the successful execution

							of a PGE, it asks DataServer to destage (archive) output data and asks Resource Management to deallocate the sources.
S-DPS-26000				DpPrCompression	New	Object	Develop	This Class is used to access the UNIX compress commands.
S-DPS-26010	new	B	The PRONG CI shall be capable of decompressing data being staged from a SDSRV CI at a remote DAAC.	DpPrDataManager	386	Object	Develop	This class defines attributes and operations for initializing and managing data granules required by a PGE during its execution. It also ensures data availability before the execution of a PGE. In case of input data is unavailable at our local system disk, it sends request to DataServer to stage data at a specific location that allocated by Resource Management. At the end of the successful execution of a PGE, it asks DataServer to destage (archive) output data and asks Resource Management to deallocate the sources.
S-DPS-26010				DpPrCompression	New	Object	Develop	This Class is used to access the UNIX compress commands.
S-DPS-26020	new	B	The PRONG CI shall be capable of destaging data to a SDSRV CI at a remote DAAC.	DpPrDataManager	386	Object	Develop	This class defines attributes and operations for initializingand managing data granules required by a PGE during its execution. It also ensures data availability before the execution of a PGE. In case of input data is unavailable at our local system disk, it sends request to DataServer to stagedata at a specific location that allocated by Resource Management. At the endof the successful execution of a PGE, it asks DataServer to destage (archive)output data and asks Resource Management to deallocate

								the sources.
S-DPS-26030	new	B	The PRONG CI shall be capable of staging data from a SDSRV CI at a remote DAAC	DpPrDataManager	386	Object	Develop	This class defines attributes and operations for initializing and managing data granules required by a PGE during its execution. It also ensures data availability before the execution of a PGE. In case of input data is unavailable at our local system disk, it sends request to DataServer to stage data at a specific location that allocated by Resource Management. At the end of the successful execution of a PGE, it asks DataServer to destage (archive) output data and asks Resource Management to deallocate the sources.

Table 5: New Component class entries

Component_Id	Req_Key	Comp_Type	Dev_Category	Text
DpPrCompression	New	Object	Develop	This Class is used to access the UNIX compress commands.

Table 6: New links from Level_4 to Component

L4 id	Component_Id
S-DSS-02905	DsGeECSDataProduct
S-DSS-02906	DsGeECSDataProduct
S-DSS-02907	DsGeECSDataProduct
S-DSS-02908	DsGeECSDataProduct
S-DSS-02902	DsGeECSDataProduct
S-DPS-26000	DpPrDataManager
S-DPS-26000	DpPrCompression
S-DPS-26010	DpPrDataManager
S-DPS-26010	DpPrCompression
S-DPS-26020	DpPrDataManager

S-DPS-26030	DpPrDataManager